

AMENDED CLAIMS

[received by the International Bureau on June 21, 2005 (21.06.2005);
original claims 1-21 replaced by new claims 1-23]

+ STATEMENT**We Claim:**

1. A fixed focus handy and sealed ovulation tester for unaided eye, compatible for people with normal vision, as well as for those with long / short sighted vision up to plus/minus 4 diopters, said ovulation tester comprising:
an inner casing(1) having a top and bottom end;
a controllable illuminating assembly with LED being masked with a diaphragm located inside the inner casing and near the bottom end of the inner casing, and being covered at the bottom by a bottom base plate (3), and a sealed fixed focused eyepiece assembly (4) being removably located at the top end of inner casing, the said eyepiece assembly being used for magnified viewing of biological specimen comprises of a bottom portion for receiving a biological specimen; and
top portion for viewing the specimen, and at least one magnifying lens disposed between the bottom and the top portions for magnifying the biological specimen, wherein the bottom biological specimen receiving portion forms part of the magnifying lens and the sealed fixed focus eye piece assembly accommodates for dioptric variations up to about ± 4 diopters for unaided eye.
2. The fixed focus handy ovulation tester as claimed in claim 1, wherein the fixed focus sealed eye piece assembly comprises of a combination of plano convex eye lens on top and a substantially thick plano-convex field lens at bottom, with their convex surfaces inwardly facing each other and plano surfaces disposed outwards, and the outward plano surface of field lens, which is construed and adjusted to be at the focus of the complete eye piece, is also used for application of biological specimen.
3. The fixed focus handy ovulation tester as claimed in claim 1, wherein the illuminating source LED is masked by a diaphragm (55), the diameter of the diaphragm can vary with respect to dioptric range and intensity of light requirement.
4. The fixed focus handy ovulation tester as claimed in claim 1, wherein the same is further provided with an outer case (5) for protection.
5. The fixed focus handy ovulation tester as claimed in 4, wherein an inner surface of the outer case is provided with an outer case sleeve (11).

6. The fixed focus handy ovulation tester as claimed in claim 1, wherein the inner casing is provided with a self locating and holding rib (21) at a substantially lower portion for conveniently guiding and holding the outer case to the inner casing.
7. The fixed focus handy ovulation tester as claimed in claim 1, wherein the fixed focus eye piece assembly comprises of a sealed housing (111) having a viewing slot (112) at a top end and incorporated with a single plano-convex rod lens (113), wherein the focus of the rod lens lies on a flat surface (114) of the same whereupon the biological specimen is applied.
8. The fixed focus handy ovulation tester as claimed in claim 1, wherein the fixed focus eye piece assembly comprises of a glass holder assembly (33) integrated with a lens holder assembly (31), wherein the glass holder assembly and the lens holder assembly are maintained at a predetermined distance by a separating means (32).
9. The fixed focus handy ovulation tester as claimed in claim 8, wherein the glass holder assembly is constituted as a sub assembly comprising of a housing (36) fitted with a Plano-convex field lens (37) having a curved surface and a flat surface, wherein the flat surface acts as an object surface where upon the biological specimen is located / applied.
10. The fixed focus handy ovulation tester as claimed in claim 9, wherein the thickness of the Plano convex field lens is equal to or greater than the radius of the lens such as a hyper hemispherical lens or a rod lens
11. The fixed focus handy ovulation tester as claimed in claim 9, wherein the Plano convex field lens is made of glass or is made of transparent plastic (37) glued using transparent optical cement to Plano-Plano glass plate (38), thereby compensating the adverse effect of plastic surface deviation / warping of flat glued surface and serving as a hard glass surface for application of biological specimen to enable repeated application and cleaning.
12. The fixed focus handy ovulation tester as claimed in claim 8, wherein the glass holder assembly is constituted as a sub assembly comprising of a housing (36) fitted with a bi-convex lens (43) and a Plano-convex field lens (42), wherein the biconvex lens is placed above a curved surface of the field lens and the flat surface acts as an object surface where upon the biological specimen is located / applied.

13. The fixed focus handy ovulation tester as claimed in claim 8, wherein the lens holder assembly is constituted as a sub assembly comprising a housing (34) fitted with a Plano convex eye lens (35).
14. The fixed focus handy ovulation tester as claimed in claim 13, wherein the eye lens is made of transparent plastic (35) and is glued using transparent optical cement to Plano-Plano polished glass plate (38), serving to compensate for the adverse optical effect plastic surface deviation / warping and offering a hard exterior glass surface to enable cleaning.
15. The fixed focus handy ovulation tester as claimed in claim 1, wherein in the fixed focus eyepiece assembly and the number of Air to glass surfaces is restricted to four, including the surface on which the biological specimen is smeared for observation.
16. The fixed focus handy ovulation tester as claimed in claim 1, wherein the glass holder assembly (33), the lens holder assembly (31), and the separating means (32) are sealed to form the fixed focus eyepiece.
17. The fixed focus handy ovulation tester as claimed in claim 1, wherein a metal sleeve (51) is further provided inside the inner casing.
18. The fixed focus handy ovulation tester as claimed in claim 1, wherein the controllable illuminating assembly comprises of a light source (52), an associated power supply means (53) and a switch means (54).
19. The fixed focus handy ovulation tester as claimed in claim 1, wherein the light source means is selected from the group comprising of a bulb and LED.
20. The fixed focus handy ovulation tester as claimed in claim 1, wherein the power supply is a battery, wherein the battery is a pencil-cell battery or a button cell battery.
21. The fixed focus handy ovulation tester as claimed in claim 1, wherein the LED is masked by a diaphragm (55), the diameter of the diaphragm is 1.6 mm.
22. The fixed focus handy ovulation tester as claimed in claim 1, wherein the fixed focus handy ovulation tester further comprises of a holder (56) for holding the battery and the LED.

23. The fixed focus handy ovulation tester as claimed in claim 1, wherein the biological specimen is saliva.

STATEMENT UNDER ARTICLE 19(1)

With reference to the International Search Report issued on November 29, 2004, we herebelow provide our comments:

WO 99/6189 (D1): Although this document describes a fixed-focus ovulation tester, the device does not take care of dioptric variations of unaided eyes and hence is not compatible with a large segment of people with long or short sighted unaided eyes. The device has EIGHT glass-air surfaces, which makes its contrast poor. Further, the device contains 4 air spaces and is not easily air scalable. Finally, the diameter of the device is about 5 inches and hence, it is not handy.

5,572,370 (D2): This document does not teach a sealed fixed-focus device. Since it is not possible seal a focusable eyepiece assembly, clarity and contrast would gradually deteriorate due to dust and condensation getting inside. It has 12 glass-air surfaces due to which the contrast is poor. Since the device incorporates separate transparent plate for application of saliva, the user may focus on wrong side of slide and obtain wrong diagnosis.

The main object of the present invention is to provide a fixed focus ovulation tester which could be used by people suffering from myopia or hypermetropia to view the samples using unaided eyes.

Although the eyepiece assembly shown in D1 provides an easy-to-operate fixed-focus tester, the images produced by such device are not clear to all users since they do not take into consideration dioptric variations.

Although the device of D2 accommodates for dioptric variations, it is not user-friendly since lot of adjustment is required to be performed every time to bring the object into focus.

Even if it is assumed that a person skilled in the art combines the teachings of the cited documents, in the manner suggested by the Examiner, still he would not be able to come up with a device which is fixed focus as well as which takes into consideration of the dioptric variations of the unaided eye.

In the present application the inventors have been able to provide a solution that overcomes all the above-mentioned difficulties by providing a completely sealed fixed-focus eyepiece assembly, wherein the biological-specimen receiving portion forms part of the magnifying lens and the sealed fixed-focus eyepiece assembly accommodates for dioptric variations up to about ± 4 diopters of unaided eye. Complete sealing of the eyepiece avoids deterioration due to dust, condensation, external environmental conditions and abrasions during use. Removal of the separate plate for application of biological-specimen and re-use of the plane surface of the magnifying lens for the purpose of application of biological-specimen results in lesser number of glass to air surfaces, thereby resulting better contrast, which is one of the most important features of the present invention, which is not being taught by any one in the prior art documents. Last but not the least, masking of the illuminating source placed below the eyepiece (using a diaphragm) increases depth of focus of the image produced by the eyepiece, thereby accommodating for the dioptric variations of unaided eyes.

It is respectfully submitted that all the three above-mentioned novel and inventive features of the present invention (all three in combination) are not being taught by documents D1 and D2 either taken individually or in combination and hence, the Examiner is requested to reconsider and waive the objections.